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### (54) ELECTRONIC MAIL DELIVERY EQUIPMENT

#### (57)Abstract:

PURPOSE: To reserve a mail for delay delivery till a transmission time comes and to send a mail automatically to an address when the transmission time comes.

CONSTITUTION: The user 50 operates a user agent 1 to generate a mail and to designate a transmission time of the mail. The user agent 1 adds a transmission time to a generated mail and stores the resulting mail in a transmission queue box 2. A delay distribution execution section 3 extracts a mail when a mail transmission time in the mail box 2 comes and loads the mail in a transfer mail box 4. A mail transfer section 5 delivers mails loaded in the transfer mail box 4 sequentially to their destinations. A delay distribution history list storing section 6 stores mail transmission and untransmission information, then the user 50 makes the user agent 1 display the information and checks it to give a delete command of an undesired mail, then a mail is deleted from the transmission queue mail box 2.



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## DETAILED DESCRIPTION

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### [Detailed Description of the Invention]

[0001]

[Industrial Application] this invention relates especially to the deferred-delivery function of mail with respect to the E-mail delivery equipment which transmits the information on a document etc. to the equipment of the destination electronically using a communication line network.

[0002]

[Description of the Prior Art] The following operations needed to be made by the user in order to have performed the deferred delivery which does not transmit mail until the specified time came using conventional E-mail delivery equipment. (1) If this mail is suspended for the mail box, it judges whether transmitting time came after that [ (2) ] and transmitting time comes after creating the mail which carries out a deferred delivery using a user agent, the Request to Send to which the mail which carried out [ aforementioned ] the hold is made to transmit from the mail transfer section will be performed. At this time, the user had to make a judgment whether the aforementioned mail reached at transmitting time by seeing a clock.

[0003] Thus, there was a fault of it becoming impossible to transmit mail to the time specified when the user was out when the transmitting time of mail comes, while the user had to perform (1) or (2) operation manually as mentioned above in order to have performed the deferred delivery of mail using conventional E-mail delivery equipment, and the burden started the user, and a Request to Send was not able to be performed to equipment. Moreover, since it was referred to as forgetting by mistake etc. whether the transmitting time of the mail which performs a deferred delivery came in order that a user might look at and supervise a clock, there was a fault that reliability was missing from deferred-delivery operation of mail.

[0004]

[Problem(s) to be Solved by the Invention] Once making this into a hold state when the user created mail, in order to have performed the deferred delivery which transmits mail to the appointed time with conventional E-mail delivery equipment, when the clock was seen, it judged whether transmitting time came and the aforementioned transmitting time came, the Request to Send of the aforementioned mail had to be carried out manually, and the burden or the fault of starting was to the user. Moreover, after the user was out at the time which should perform a deferred delivery or had forgotten transmitting time, it would not be transmitted to the time when the aforementioned mail was specified, and there was a fault that a deferred delivery was not performed certainly.

[0005] Then, this invention removes the above-mentioned fault, it suspends the mail which performs a deferred delivery until transmitting time comes, and if the aforementioned transmitting time comes, it aims at offering the E-mail delivery equipment which can transmit the aforementioned mail to the destination automatically.

[0006]

[Means for Solving the Problem] In the E-mail delivery equipment which transmits electronically the mail which created this invention to the destination through a circuit A storage means to keep the

created mail, and a specification means to make a user specify the transmitting time which transmits the aforementioned mail, A comparison means to compare with the present time the transmitting time specified by this specification means, If it is detected that the aforementioned transmitting time reached at the present time by this comparison means A mail transmitting means to take out mail of relevance from the aforementioned storage means, and to transmit this mail to the destination, A presentation means to show a user whether have transmitted the mail and this mail within the aforementioned storage means, or be transmitting ending, It has the composition provided in a cancellation demand means to make the cancellation demand of the mail shown by this presentation means give to a user, and a cancellation means to delete the mail with which it canceled by this cancellation demand means, and the demand was made from the aforementioned storage means.

[0007]

[Function] In the E-mail delivery equipment of this invention, a storage means keeps the created mail. A specification means makes a user specify the transmitting time which transmits the aforementioned mail. A comparison means compares the transmitting time and the present time which were specified by the aforementioned specification means. If it is detected that the aforementioned transmitting time reached at the present time by the aforementioned comparison means, a mail transmitting means will take out mail of relevance from the aforementioned storage means, and will transmit this mail to the destination. It is shown to a user whether presentation meanses are whether the mail and this mail within the aforementioned storage means having been transmitted, and transmitting ending. A cancellation demand means makes the cancellation demand of the mail shown by the aforementioned presentation means give to a user. A cancellation means deletes the mail with which it canceled by the aforementioned cancellation demand means, and the demand was made from the aforementioned storage means.

[0008]

[Example] Hereafter, one example of this invention is explained with reference to a drawing. Drawing 1 is the block diagram having shown one example of the E-mail delivery equipment of this invention. 1 creates mail with the directions from a user 50, or is the user agent which performs a display and cancellation of deferred-delivery mail of a processing situation, and is equipped with the man machine interface (not shown) which consists of a keyboard, a display, etc. Waiting mail BOKKUSUSU for transmission which keeps the mail which has not reached at the transmitting time when 2 was specified, When the mail delivery time and the present time which are kept by waiting mail BOKKUSUSU 2 for transmission are compared and the transmitting time of mail comes, 3 Transfer mail BOKKUSUSU which stores the deferred-delivery statement part which performs the Request to Send of this mail, and the mail which 4 transmits, The mail transfer section which 5 loads the mail stacked in transfer mail BOKKUSUSU 4, and transmits to the destination in order, and 6 are the deferred-delivery history list storing sections which store the deferred-delivery history list which holds deferred-delivery history information collectively for every user.

[0009] finishing [ drawing 2 / a transfer of the dispatch identification number and the aforementioned object mail which are the deferred-delivery history information indicated by the deferred-delivery history list shown in drawing 1 , and are set up by the user agent 1 in order to discriminate object mail ] -- it is -- having not transmitted in a thing -- or it has the processing flag which shows whether the transfer was canceled In addition, object mail is the mail with which the deferred delivery was specified.

[0010] Drawing 3 is drawing having shown the example of composition of the mail stored in waiting mail BOKKUSUSU 2 for transmission shown in drawing 1 . An addresser's name (user name) and deferred delivery time (time which sends this mail) are set to the header of mail, and the document which should be transmitted to the body in the bottom of it at a partner is indicated. In addition, it is used in order that the aforementioned user name may discriminate a deferred-delivery history list, and a deferred delivery time is used in order that the deferred-delivery statement part 3 may judge the transmitting time of mail.

[0011] Next, operation of this example is explained. First, although a user 50 creates the mail which performs a deferred delivery using a user agent 1, he explains operation of the user agent 1 at this time

hereafter using the flow chart shown in drawing 4 . A user 50 specifies a user name and a deferred delivery time while creating mail using the man machine interface of a user agent 1, after logging in. By this, at Step 401, a user agent 1 creates mail as the user 50 directed, as shown in drawing 3 , and the user name and the deferred delivery time are set as the header at this time. Next, at Step 402, a dispatch identification number is set up to the mail which carried out [ aforementioned ] creation, and it progresses to Step 403, after creating deferred-delivery history information as shown in drawing 2 which consists of this and a processing flag. At this time, the aforementioned processing flag presupposes that it is unsettled. At Step 403, the deferred-delivery history list which the user name by which specification was carried out [ aforementioned ] uses is chosen from the deferred-delivery history list storing section 6, the deferred-delivery history information which carried out [ aforementioned ] creation is indicated at Step 404 on this deferred-delivery history list, and it progresses to Step 405 after that. At Step 405, the created mail is stored in the waiting mail box 2 for transmission, and processing is ended.

[0012] Drawing 5 is the flow chart which showed operation of the user agent 1 at the time of a user 50 checking the processing situation of the mail into which it was put by the waiting mail box 2 for transmission. A user 50 inputs check instructions of the processing situation of a user name and mail into a user agent 1 first to check the processing situation of the mail into which it was put by the waiting mail box 2 for transmission. Thereby, a user agent 1 searches the deferred-delivery history list for user names inputted from the deferred-delivery history list storing section 6 at Step 501, reads the deferred-delivery history information in the deferred-delivery history list which searched, and expresses it as Step 502 by considering this as a list. At Step 503, a user 50 looks at the processing flag of the deferred-delivery history information on mail that he wants to know a processing situation out of the displayed deferred-delivery history information, and checks the processing situation of the aforementioned mail. When it is judged at this time that the aforementioned deferred-delivery history information is not required, a user 50 takes out deletion instructions of the aforementioned deferred-delivery history information to a user agent 1. Thereby, at Step 504, a user agent 1 deletes the deferred-delivery history information on relevance from the inside of a deferred-delivery history list, and ends processing.

[0013] Drawing 6 is a flow chart which shows operation of the deferred-delivery statement part 3. The deferred-delivery statement part 3 ends processing, when not searching and going [ whether mail is contained and ] into the waiting mail box 2 for transmission at Step 601, and when entering, it progresses to Step 602. At Step 602, mail is taken out from the waiting mail box 2 for transmission, and it progresses to Step 603. At Step 603, the deferred delivery time and the present time of this mail are compared, when the deferred delivery time has reached at the present time, it progresses to Step 604, and when that is not right, it progresses to Step 608. At Step 608, after returning the taken-out mail to the waiting mail box 2 for transmission, it returns to Step 601, and it moves to processing of the following mail. On the other hand, when it progresses to Step 604, after storing the taken-out mail in transfer mail BOKKUSUSU 4, it progresses to Step 605, and it progresses to Step 606, after choosing the deferred-delivery history list for the aforementioned user names from the deferred-delivery history list storing section 6 based on the user name currently written to the aforementioned mail. At Step 606, after taking out the aforementioned deferred-delivery history information on the mail stored in the aforementioned transfer mail box 4 from the selected deferred-delivery history list and making the processing flag of this deferred-delivery history information transfer end at Step 607, it returns to Step 601. In addition, when two or more mails are stored in waiting mail BOKKUSUSU 2 for transmission, the deferred-delivery statement part 3 performs in order processing shown by drawing 6 about each mail.

[0014] The mail transfer section 5 takes out mail from transfer mail BOKKUSUSU 4 in the turn stacked by the deferred-delivery statement part 3, and transmits to the destination the user 50 specified this mail to be.

[0015] Drawing 7 is a flow chart which shows operation of the user agent 1 at the time of a user 50 canceling the deferred delivery of mail. A user 50 issues the display command of deferred-delivery history information while inputting a user name into a user agent 1. Thereby, a user agent 1 searches the deferred-delivery history list of users inputted from the deferred-delivery history list storing section 6 at

Step 701, reads the deferred-delivery history information in the deferred-delivery history list which searched, and expresses it as Step 702 by considering this as a list. finishing [ the processing flag of the deferred-delivery history information specified by progressing to Step 704 / a transfer ] when a user 50 is made to specify the deferred-delivery history information corresponding to mail to cancel at Step 703 and there is specification -- it is -- finishing [ a \*\*\*\*\* is judged and / a transfer ] -- it is not -- finishing [ a case / a case progresses to Step 705 and / a transfer ] -- it is -- a case progresses to Step 709 At Step 709, since the mail by which cancellation specification was carried out is transfer ending, the error message that it cannot cancel is displayed and processing is ended. On the other hand, when it progresses to Step 705, after taking out the mail which has the dispatch identification number currently written to the deferred-delivery history information by which specification was carried out [ aforementioned ] from the waiting mail box 2 for transmission, this is deleted at Step 706. Then, it progresses to Step 707, and after canceling the processing flag of the aforementioned deferred-delivery history information and making it end, a user 50 is told about this. If it judges that a user 50 is not required after a user 50 checks this cancellation, since deletion instructions of deferred-delivery history information will be inputted, a user agent 1 deletes the aforementioned deferred-delivery history information, and ends processing.

[0016] According to this example, a user 50 only specifies a user name and a deferred delivery time to be these user agents 1, after creating mail by the user agent 1. A user agent 1 stores the aforementioned mail in the waiting mail box 2 for transmission, carry out hold processing, and, as for after, the deferred-delivery statement part 3 supervises the deferred delivery time of the aforementioned mail in the meantime. If this time comes, by taking out the aforementioned mail from the waiting mail box 2 for transmission, and loading transfer mail BOKKUSUSU 4, a Request to Send can be performed in the mail transfer section 5, and the aforementioned mail can be automatically transmitted to the destination. If the specified deferred delivery time comes by this while the burden concerning processing of the aforementioned user's 50 deferred-delivery mail is remarkably mitigable, the aforementioned mail can be certainly transmitted to the destination. Moreover, also by the mail which once carried out deferred-delivery specification, while not being transmitted, the period still suspended in the mail box 2 can cancel the aforementioned deferred-delivery specification by the user 50, and delivery of the aforementioned mail is stopped.

[0017]

[Effect of the Invention] As described above, the mail which performs a deferred delivery according to the E-mail delivery equipment of this invention is suspended until transmitting time comes, and if the aforementioned transmitting time comes, the aforementioned mail can be automatically transmitted to the destination.

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CLAIMS

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[Claim(s)]

[Claim 1] E-mail delivery equipment which is characterized by providing the following and which transmits the created mail to the destination electronically through a circuit. A storage means to keep the created mail. A specification means to make a user specify the transmitting time which transmits the aforementioned mail. A comparison means to compare with the present time the transmitting time specified by this specification means. A mail transmitting means to take out mail of relevance from the aforementioned storage means, and to transmit this mail to the destination if it is detected that the aforementioned transmitting time reached at the present time by this comparison means.

[Claim 2] E-mail delivery equipment which is characterized by providing the following and which transmits the created mail to the destination electronically through a circuit. A storage means to keep the created mail. A specification means to make a user specify the transmitting time which transmits the aforementioned mail. A comparison means to compare with the present time the transmitting time specified by this specification means. If it is detected that the aforementioned transmitting time reached at the present time by this comparison means A mail transmitting means to take out mail of relevance from the aforementioned storage means, and to transmit this mail to the destination, A presentation means to show a user whether have transmitted the mail and this mail within the aforementioned storage means, or be transmitting ending, A cancellation demand means to make the cancellation demand of the mail shown by this presentation means give to a user, and a cancellation means to delete the mail with which it canceled by this cancellation demand means, and the demand was made from the aforementioned storage means.

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